

In the Claims

Claims 1-6 (Cancelled)

¹
Claim 7 (Currently amended):

A method for sequencing a polynucleotide, comprising the steps of:

- (i) reacting a target polynucleotide with a helicase enzyme or a primase enzyme, under conditions suitable for enzyme activity; and
- (ii) detecting the interaction between the enzyme and a the nucleotide on the target polynucleotide, by measuring radiation to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, radiation that occurs during the interaction.

²
Claim 8 (Previously added):

The method, according to claim 7, wherein the radiation is electromagnetic.

³
Claim 9 (Previously added):

The method, according to claim 7, wherein step (ii) comprises using surface plasmon resonance.

⁴
Claim 10 (Previously added):

The method according to claim 7, wherein step (ii) comprises using nuclear magnetic resonance.

⁵
Claim 11 (Previously added):

The method, according to claim 8, wherein step (ii) comprises using surface plasmon resonance.

6
Claim 12 (Previously added): 2

The method, according to claim 8, wherein step (ii) comprises using nuclear magnetic resonance.

7
Claim 13 (Previously added): 1

The method according to claim 7, wherein the enzyme is immobilised on a solid support.

8
Claim 14 (Currently amended):

A method for sequencing a polynucleotide, comprising the steps of:

- (i) reacting a target polynucleotide with a helicase enzyme and a primase enzyme under conditions suitable for enzyme activity; and
- (ii) detecting the interaction between the enzymes and a the nucleotide on the target polynucleotide, by measuring radiation to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, radiation that occurs during the interaction.

9
Claim 15 (Previously added): 8

The method, according to claim 14, wherein the radiation is electromagnetic.

10
Claim 16 (Previously added): 8

The method, according to claim 14, wherein step (ii) comprises using surface plasmon resonance.

11
Claim 17 (Previously added): 8

The method according to claim 14, wherein step (ii) comprises using nuclear magnetic resonance.

¹²
Claim 18 (Previously added): ⁹

The method, according to claim 15, wherein step (ii) comprises using surface plasmon resonance.

¹³
Claim 19 (Previously added): ⁹

The method, according to claim 15, wherein step (ii) comprises using nuclear magnetic resonance.

¹⁴
Claim 20 (Currently added): ⁹

The method according to claim 14, wherein the enzymes are immobilised on a solid support.

¹⁵
Claim 21 (Currently amended):

A sensor chip comprising an optically transparent material; a reflective film; and a helicase enzyme, a primase enzyme, or both a helicase enzyme and a primase enzyme, immobilised thereon, immobilized on said chip.

¹⁶
Claim 22 (New):

A method for sequencing a polynucleotide, comprising the steps of:

- (i) reacting a target polynucleotide with a helicase enzyme under conditions suitable for enzyme activity; and
- (ii) detecting the interaction between the helicase enzyme and the nucleotide on the target polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring a change in, or absorption of, radiation that occurs during the interaction.